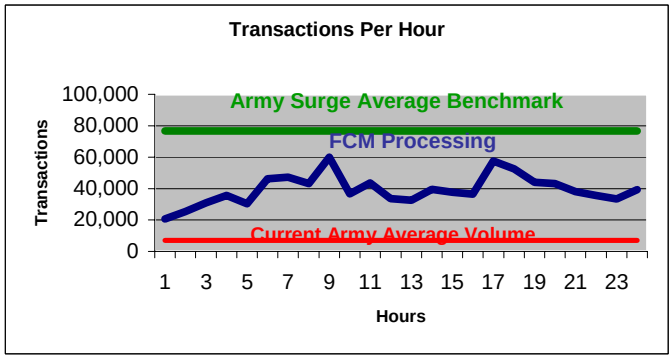
Transaction Volume (Stress) Test Hardware After Action Report (AAR) for Funds Control Module 13 – 14 April 2007

Executive Summary

The Funds Control development team conducted a Transaction Volume (Stress) Test (TVST) between 13 and 14 April 2007. The objective of this stress test was to test newly installed Funds Control Module (FCM) hardware which was obtained to improve the FCM Input/Output (I/O) problem. During the initial fielding of Funds Control, the FCM I/O problem was discovered.

The initial TVST was conducted between Middleware (MW) and Funds Control Module (FCM). Operational Data Store (ODS) and Standard Army Finance System (STANFINS) data was conducted on 15 and 16 September 2006. The data transactions from the initial test flowed (via Web service calls) from Middleware to FCM, and then from FCM to ODS and returned from ODS to FCM. Data transactions (via standard batch text files) flowed between ODS and STANFINS and returned to ODS. The purpose of the April 2007 stress test was different than the original stress test, which focused on the MW – FCM – ODS – STANFINS process. This process has been tested extensively via normal production for the sites currently on FCM. The purpose of the April 2007 test was to stress the FCM I/O and demonstrate whether FCM could successfully process the transactions resulting from Single Stock Fund (SSF) MW output of the SARSS input global wartime benchmark of 8 million transactions in a 24-hour period and accommodate simulated web users using the newly installed hardware. The first stress test determined the FCM system as configured would not support the global wartime benchmark volume in support of the entire Army, but FCM did process 3 to 4 times the whole Army current operational workload and was capable of handling another combat theater.

The most recent test was on the newly installed FCM target hardware demonstrated FCM could process significantly in excess of the current Army-wide volume (see below graph). In one day FCM processed 10 days of 8th Army, USAREUR and Fort Hood volume and 5 plus days of Fort Bragg and 321st CTASCs volume. FCM did process approximately half the global wartime volume but between 5 and 6 times current Army SARSS volume. FCM must continue to optimize code throughout conversion and while processing the rest of the Army.



Purpose

This AAR addresses the results from the Transaction Volume (Stress) Test between Middleware (MW), Funds Control Module (FCM), Operational Data Store (ODS) and Standard Army Finance System (STANFINS).

Background

During the April 2004 Funds Control IT IPR, a requirement evolved from an Action Item (AI) to each Central Design Agency (CDA) to perform a stress test based on changes required for FCM. This AI was addressed at multiple IT IPRs, which were conducted for the Funds Control program.

During subsequent Funds Control IT IPRs and Funds Control program briefings, at which CDA, ASA (FM&C) and AMC G-3 representatives participated, volume requirements for the Stress Test were determined. At the August 2005 IT IPR, the requirement for more than 6000 financial or logistics interactive users was approved by AMC G-3 EI Directorate. At a later Funds Control Module Transactional Volume Update briefing to AMC G-3 EI Directorate, a new transaction volume benchmark of 8 million transactions from SARSS to Middleware within a 24-hour period was approved.

Based on these decision points, a Transaction Volume (Stress) Test Plan for Funds Control was written and published. That test was conducted 15-16 September 2006. The results of that stress test found that FCM did not process the global wartime volume, but it did process 3 to 4 times the whole Army current operational workload and is capable of handling another combat theater.

FCM continued with SQL Server optimization and performance tuning to meet wartime volume and additional hardware was added in March 2007 to provide increased capability as well as to provide redundancy. The sequence of events used to prepare for this stress test is attached, see Enclosure A.

Test Description

Testing was organized according to the various transaction types and system files that are passed between MW, FCM, ODS and STANFINS.

The test was conducted in a near live environment with concurrent user interfaces. The goal of the test was to measure the successful flow of the data transactions (via Web service calls) from Middleware to FCM, then from FCM to ODS (total of 90,478 web calls). AT&T captured 99,548 returned web service calls for ODS during 1 March 2007 through 10 April 2007 and stored these for used in the TVST. The stored returned web service calls were input incrementally. These web call transactions were used to simulate web service calls between ODS to STANFINS to ODS to FCM under near live

environment with concurrent user interfaces. TVST participants are reflected at Enclosure E.

Parameters

In order to accomplish the FCM testing, it was necessary to begin with all database tables established for the data flow of the system. The FCM database tables are the Financial Account Data Record (FADR), Department of Defense Activity Address Code, Job Order, Customer Control (DoJoCon), Department of Defense Activity Address Code (DODAAC), Standard Army Retail Supply System 2B Routing Identifier Code (2B RIC), Element of Resource Assignments (EOR Assignments), National Stock Number Element of Resource (NSN EOR), and Catalog.

As a rule, the progression of test files followed the flow of the system. For example, SSF MW will intercept the files from the CTASC system and make necessary modifications to implement SSF/FC business rules. The files will then be transmitted to FCM based on approved Business Rules. In this way, initial obligations and obligation adjustments will transmit to ODS continuously throughout the day. The passing of data from FCM to ODS/STANFINS and from ODS/STANFINS back to FCM will utilize web service calls. The transaction data from ODS/STANFINS to FCM will be processed when received.

Testing utilized actual files consisting of various transaction types and system files that are passed between SSF Middleware, FCM, ODS and STANFINS. Production users were informed that the production hardware would go offline at 1000 11 Apr for pre-test, and again noon April 13 through noon April 15 for the TVST.

Table 1.1 represents actual live data captured from the five CTASC sites. (W39, WAA and WJV data captured 1 March to 10 March. WQB and QJ6 were captured 27 March to 5 April) Just over 11 million transactions were pushed from SARSS to MW. This data was used for the TVST even though AMC G-3 EI designated wartime volume was 8 million.

Table 1.1 Transactions Input to MW

Type of Transactions Into MW	Baton Rouge	Fort Bragg	Fort Hood	Korea	USAREUR	Total Quantity	Percentage
	RIC W39	RIC WAA	RIC WJV	RIC WJ6	RIC WQB		
Requisitions A0_	582,075	270,464	183,674	58,722	147,739	1,242,674	10.44%
Issues A5_	307,900	106,265	98,828	24,687	89,477	627,157	5.27%
Denials A6_	772	356	226	206	254	1,814	0.02%
Status AE_	1,037,261	473,212	300,087	99,723	211,839	2,122,122	17.84%
Doc Mod AM_	8,356	1,780	2,124	1,443	3,330	17,033	0.14%
Ships AS_	136,564	51,698	34,731	12,157	33,864	269,014	2.26%
Follow-ups AT_	5,769	4,841	1,637	757	988	13,992	0.12%
Receipt D4_	0	0	0	0	2	2	0.00%
Receipt D6_	313,976	94,471	69,374	24,867	70,667	573,355	4.82%
LPC ZHM	0	0	0	0	1	1	0.00%
Non-Financial	2,955,979	2,040,921	1,173,205	415,287	445,430	7,030,822	59.09%

Type of Transactions Into MW	Baton Rouge	Fort Bragg	Fort Hood	Korea	USAREUR	Total Quantity	Percentage
	RIC W39	RIC WAA	RIC WJV	RIC WJ6	RIC WQB		
Total Transactions	5,348,652	3,044,008	1,863,886	637,849	1,003,591	11,897,986	

Table 1.2 represents the data that was pushed from MW to the FCM platform based on Business Rules during the course of the TVST. Data reflects that, based on current Business Rules, MW pushed about 26 percent of the SARSS to MW volume to FCM.

Table 1.2 Transactions from MW to FCM

Type of Transactions Into FCM	Baton Rouge	Fort Bragg	Fort Hood	Korea	USAREUR	Total Quantity	Percentage
	RIC W39	RIC WAA	RIC WJV	RIC WJ6	RIC WQB		
Requisitions A0_	267,379	181,135	121,011	42,611	91,795	703,931	22.41%
Issues A5_	157,387	45,627	37,390	18,288	56,899	315,591	10.05%
Denials A6_	420	204	115	158	165	1,062	0.03%
Status AE_	608,125	372,029	217,906	98,267	209,712	1,506,039	47.95%
Doc Mod AM_	3,068	1,230	752	901	1,835	7,786	0.25%
Ships AS_	98,331	38,591	24,950	11,139	24,270	197,281	6.28%
Follow-ups AT_	1,830	2,020	1,098	344	580	5,872	0.19%
Receipt D4_	0	0	0	0	1	1	0.00%
Receipt D6_	168,584	2,020	1,098	17,206	44,136	233,044	7.42%
LPC ZHM	0	0	0	0	1	1	0.00%
Non-Financial	33,349	70,893	46,760	2,912	16,508	170,422	5.43%
Total Transactions	1,338,473	713,749	451,080	191,826	445,902	3,141,030	

Web Interactive Users

It has been estimated that 6,000 anticipated users could gain access to FCM. However, not all 6,000 plus users will gain access at the same time. Based on a 24-hour period, an average of 250 users could access the FCM for various reasons. Under normal operating conditions this number could be higher. This testing will include a peak period of 400 users accessing the FCM database to run reports and/or selected queries. Access will be via a NIPRNET based website which will provide current and accurate information regarding availability of funds.

Based on a 24-hour period, an average number of 250 users per hour (6,000 divided by 24 hours equals 250 users) is anticipated to access the FCM Web portal to view Web pages, run reports and/or selected queries. This testing included a peak period of 400 users for a 2-hour period accessing the FCM Web portal. Access was via a NIPRNET based Web site which provided current and accurate information regarding availability of funds.

Table 1.3, User Interface Percentages represents the 250 financial and logistical users performing functional types of access (processes). For example, 30 percent (75 users)

will enter a document number every minute, per hour, for the 24 hour testing period. Each type of access uses the same formula.

Table 1.3 Script based Users Interface Percentage

Type of Access	Percentage	Query Frequency per User *
Logistical Information		
Document Number – detail	30%	1 minute
Financial Information		
Document number – detail	30%	1 minute
DoJoCon Maintenance	5%	15 seconds
Transaction Adjustment	15%	1 minute
FADR query	5%	30 seconds
Report – Turn-in Credit	5%	1 minute
Report – Unbilled Listing	5%	1 minute
Report – Prepaid Transit	5%	1 minute

* The assumption of how long the user will view and analyze the results before another query.

Expected Outcome

The FCM Stress Test requirements were to process the AMC G-3 EI designated global wartime volume of:

- 8 million transactions from SARSS within a 24-hour period
- 250 interactive users performing selected functions per hour in a 22-hour period
- peak load of 400 web-call users performing selected functions per hour for a two hour period

Actual Outcome

Initial Review – Review of the metrics and the analysis which was used to produce the tentative published results indicates:

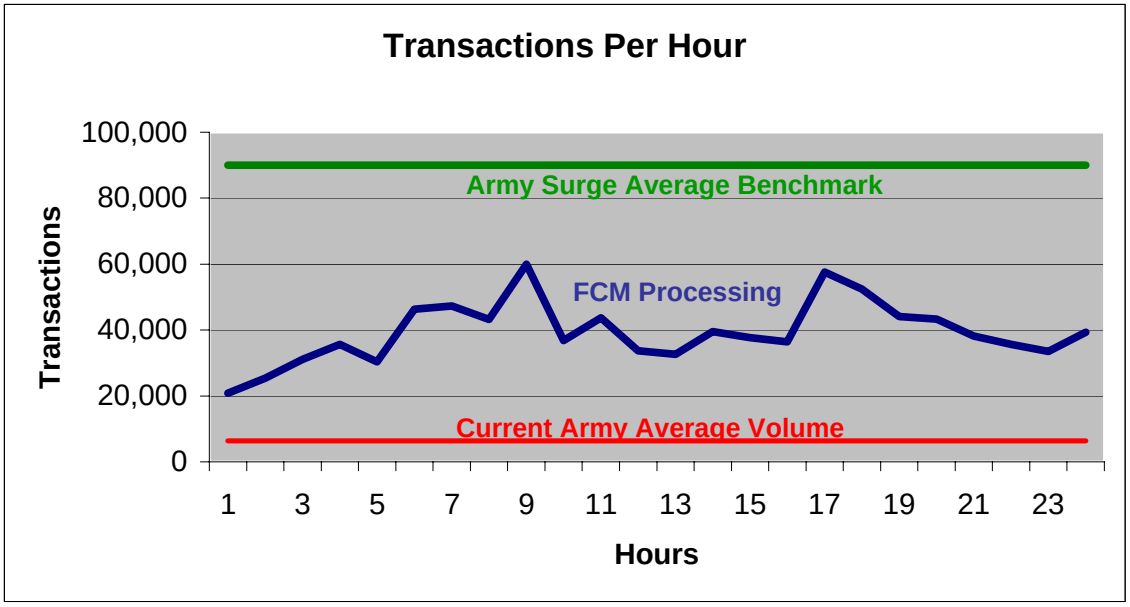
- FCM can handle Army's current volume
- In 1 day, FCM processed 10 days of 8th Army, USAREUR & Fort Hood volume and 5 plus days of Bragg and 321st CTASCs volume
- In 1 day, FCM processed 6 times current Army SARSS volume
- New hardware I/O improvement – 178 versus 11 records / minute
- FCM will continue to optimize code throughout conversion and processing rest of Army

Two of the findings were easy, at the end of the 24-hours stress test, FCM had processed ten days of SARSS files for 8th Army, USAREUR and Fort Hood CTASCs. FCM also processed five plus days of SARSS files for Bragg and 321st CTASCs.

When taking the global wartime volume of 8 million SARSS transactions times the 27 percent which is normally passed to FCM, FCM will have to process approximately 2.16 million in one day or 90,000 transactions per hour. Likewise, the current Army daily average of SARSS transactions is approximately 570,000 transactions or 153,900 transactions FCM must process (570,000 * 27%) which equates to 6,412 per hour (see below chart).

Hour	MW Today	FCM Stress Test	Surge Benchmark
1	6,412	20,787	90,000
2	6,412	25,396	90,000
3	6,412	31,058	90,000
4	6,412	35,664	90,000
5	6,412	30,372	90,000
6	6,412	46,270	90,000
7	6,412	47,259	90,000
8	6,412	43,173	90,000
9	6,412	59,965	90,000
10	6,412	36,778	90,000
11	6,412	43,669	90,000
12	6,412	33,718	90,000
13	6,412	32,616	90,000
14	6,412	39,570	90,000
15	6,412	37,695	90,000
16	6,412	36,473	90,000
17	6,412	57,578	90,000
18	6,412	52,439	90,000
19	6,412	44,066	90,000
20	6,412	43,291	90,000
21	6,412	38,146	90,000
22	6,412	35,637	90,000
23	6,412	33,503	90,000
24	6,412	39,387	90,000
Totals	153,888	944,510	2,160,000

From the above chart the following chart was produced and used as part of the tentative review of the stress test.



Final Review – During the first hour of the TVST it was discovered that a critical user parameter was incorrectly set. An adjustment was made on-the-fly and processing continued. Due to this anomaly, the Test Director determined that the TVST would be allowed to run for a total of 25 hours and the first hour, although captured in the results, would not be counted in the test analysis. This discarded data is reflected on the analysis charts highlighted in orange. TVST hourly result reports were distributed to designated field users. This section provides an explanation of those results as well as additional findings. A copy of the final report is provided in Enclosure B. Descriptions are added at the bottom of each column to explain how the results for that column were captured.

After the initial review, which used 27% as the amount of SARSS transactions which were actually passed to FCM, the 27% was reexamined for validity. Two time periods were used: 1 – 31 January, and 17 – 23 February 2007 for analysis. In both of these time periods, it was discovered approximately 23 percent of all SARSS transactions are processed into FCM (see below tables). In the future the average amount of SARSS transactions which are passed to FCM will be assumed to be approximately 23 percent.

1 - 31 January 2007				
Funds Control	**Enabled**		**Non**	**Funds Control**
RIC	**Transactions**		**RIC**	**Transactions**
W26	328,417		W39	10,184,136
WJ6	692,038		W62	1,026,262
W7W	2,410,371		WAA	2,870,856

1 - 31 January 2007				
Funds Control	**Enabled**		**Non**	**Funds Control**
WQB	1,376,727		WJV	1,928,875
Sub Total	4,807,553		WZW	1,202,989
			Sub Total	17,213,118
Total MW Transactions	**22,020,671**			
FC Percent	**22%**			

17 - 23 February 2007				
Funds Control	**Enabled**		**Non**	**Funds Control**
RIC	**Transactions**		**RIC**	**Transactions**
W26	68,329		W39	1,833,917
WJ6	74,127		W62	207,101
W7W	503,688		WAA	429,601
WQB	272,365		WJV	322,317
Sub Total	918,509		WZW	200,995
			Sub Total	2,993,931
Total MW Transactions	**3,912,440**			
FC Percent	**23%**			

The effect of 23% instead of 27% would be to lower the surge benchmark of 8 million transactions to approximately 1.84 million transactions FCM must process each day. Since FCM processed 944,510 transactions during the stress test, it can be concluded FCM can process half the Army's surge benchmark of SARSS transactions. Continued optimization is required to achieve the 8 million Army surge benchmark.

AT&T expanded its analysis to determine the current routine transaction volume that was being processed by the Army. The tentative results used 570,000 as the average number of SARSS transactions per day. To check the validity of this number an analysis of three months of SARSS data was reviewed. The results of the analysis for the three month period, 1 January through 31 March 2007, showed a total of 66,871,799 actual SARSS transactions processed through the nine U.S. Army CTASCs at LOGSA. The average

daily count was 743,019 transactions. This count includes the 321st TMMC (CENTCOM), which supports transaction processing for the Iraq and Afghanistan arenas. The monthly transactions totals by CTASCs can be viewed in below table 1.4.

Table 1.4 Live Data Nine CTASC to MW

1 – 31 January 2007		
CTASC	**RIC**	**Transactions per month**
USARPAC	W26	328,417
KOREA	WJ6	692,038
NGB	W7W	2,410,371
USAREUR	WQB	1,376,727
CENTCOM	W39	10,184,136
IMA	W62	1,026,262
BRAGG	WAA	2,870,856
HOOD	WJV	1,928,875
USARC	WZW	1,202,989
	TOTAL	22,020,671
	Daily AVG	710,344
	Hourly AVG	29,598

1 – 28 February 2007		
CTASC	**RIC**	**Transactions per month**
USARPAC	W26	324718
KOREA	WJ6	567725
NGB	W7W	2,276,558
USAREUR	WQB	1,555,691
CENTCOM	W39	8,443,013
IMA	W62	996,864
BRAGG	WAA	2,850,362
HOOD	WJV	1,740,692
USARC	WZW	1,196,445
	TOTAL	19,952,068
	Daily AVG	712,574
	Hourly AVG	29,691

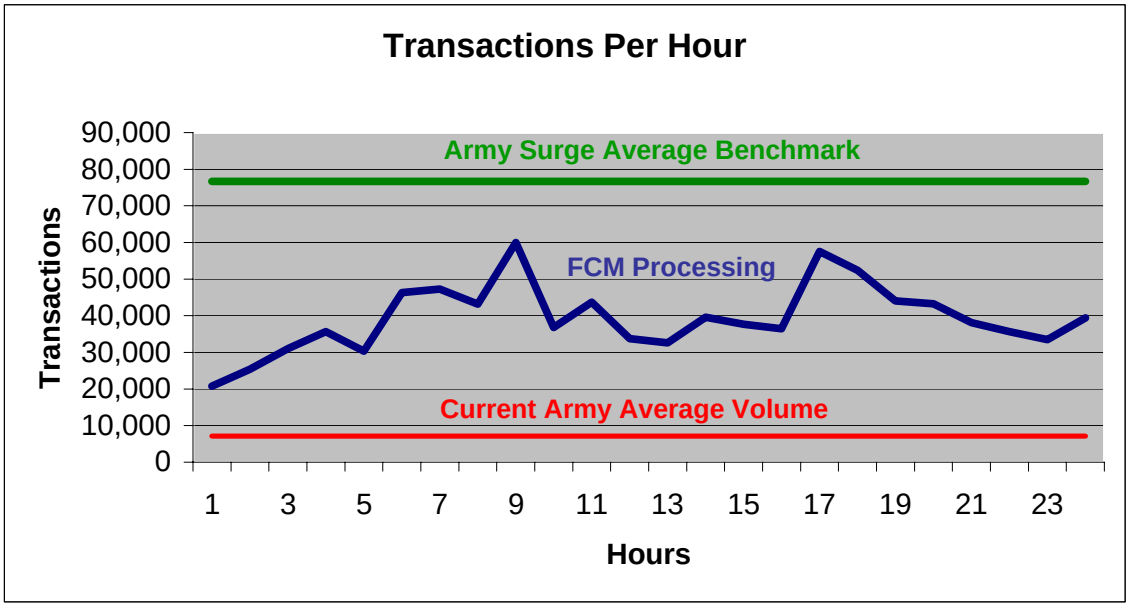
1 – 31 March 2007		
CTASC	**RIC**	**Transactions per month**
USARPAC	W26	437,873
KOREA	WJ6	772,621
NGB	W7W	2,751,128
USAREUR	WQB	1,926,843
CENTCOM	W39	9,958,517
IMA	W62	1,329,661
BRAGG	WAA	3,167,788
HOOD	WJV	2,919,616
USARC	WZW	1,635,013
	TOTAL	24,899,060
	Daily AVG	803,195
	Hourly AVG	33,466

Using 23 percent as the average number of SARSS transactions which FCM must process, instead of 27 percent; and using 743,000 transactions as the average number of SARSS transactions in a day, the initial results provided before would look like this.

Hour	MW Today	FCM Stress Test	Surge Benchmark
1	7,120	20,787	76,700
2	7,120	25,396	76,700
3	7,120	31,058	76,700
4	7,120	35,664	76,700
5	7,120	30,372	76,700
6	7,120	46,270	76,700
7	7,120	47,259	76,700
8	7,120	43,173	76,700
9	7,120	59,965	76,700
10	7,120	36,778	76,700
11	7,120	43,669	76,700
12	7,120	33,718	76,700
13	7,120	32,616	76,700
14	7,120	39,570	76,700
15	7,120	37,695	76,700
16	7,120	36,473	76,700
17	7,120	57,578	76,700
18	7,120	52,439	76,700
19	7,120	44,066	76,700
20	7,120	43,291	76,700
21	7,120	38,146	76,700
22	7,120	35,637	76,700

Hour	MW Today	FCM Stress Test	Surge Benchmark
23	7,120	33,503	76,700
24	7,120	39,387	76,700
Totals	170,880	944,510	1,840,800

The corresponding chart would be:



Final analysis of the metrics indicates:

- FCM did not process the global wartime volume
- FCM did process in excess of the current Army-wide volume
- FCM can handle the Army's current volume
- In 1 day, FCM processed between 5 and 6 times current Army SARSS volume
- In 1 day, FCM processed 10 days of 8th Army, USAREUR & Fort Hood volume and 5 plus days of Bragg and 321st CTASCs volume
- FCM did process successfully 99,548 ODS to FCM web service calls
- FCM did process successfully 90,478 FCM to ODS web service calls
- FCM Web user interactions were successful at above the predicted wartime usage, producing 3,062,446 million Web page requests, queries, and reports for 250 simultaneous users with an average response time of .223 seconds (Enclosure B)
- New hardware I/O improvement – 178 versus 11 records / minute
- FCM must continue to optimize code throughout conversion and processing rest of Army

The following paragraphs are organized to correspond to the columns of the report in Enclosure B.

Measured for performance: Count of transactions processed (cumulative) from MW to FCM

For the 24 hour period, FCM processed 944,510 transactions. The count of transactions processed (cumulative) from Middleware to FCM is reflected in Column C of Table 1.5, which has been extracted from the table in Enclosure B. Columns A and B show the date and timeframe of the data collection.

Table 1.5 FCM Cumulative Count of Transactions Processing

A	B	C
Date	For Time Period (EDT)	Processing rate
		Cumulative
4/13/2007	14:00:00-15:00:00	12,785
4/13/2007	15:00:00-16:00:00	20,787
4/13/2007	16:00:00-17:00:00	46,183
4/13/2007	17:00:00-18:00:00	77,241
4/13/2007	18:00:00-19:00:00	112,905
4/13/2007	19:00:00-20:00:00	143,277
4/13/2007	20:00:00-21:00:00	215,117
4/13/2007	21:00:00-22:00:00	236,806
4/13/2007	22:00:00-23:00:00	279,979
4/13/2007	23:00:00-00:00:00	339,944
4/14/2007	00:00:00-01:00:00	376,722
4/14/2007	01:00:00-02:00:00	420,391
4/14/2007	02:00:00-03:00:00	454,109
4/14/2007	03:00:00-04:00:00	486,725
4/14/2007	04:00:00-05:00:00	526,295
4/14/2007	05:00:00-06:00:00	563,990
4/14/2007	06:00:00-07:00:00	600,463
4/14/2007	07:00:00-08:00:00	658,041
4/14/2007	08:00:00-09:00:00	710,480
4/14/2007	09:00:00-10:00:00	754,546
4/14/2007	10:00:00-11:00:00	797,837
4/14/2007	11:00:00-12:00:00	835,983
4/14/2007	12:00:00-13:00:00	871,620
4/14/2007	13:00:00-14:00:00	905,123
4/14/2007	14:00:00-15:00:00	944,510

Measured for performance: Count of transactions processed (per hour) from MW to FCM

The count of transactions completing processing (per hour) from Middleware to FCM is reflected in Table 1.6, which is an extract from the table in Enclosure B. Each figure is a

STAND ALONE count. The date and timeframe of data capture is in Column A and B. Column D is the number of transactions that completed processing within that designated hour.

Table1.6 FCM per Hour Count of Transactions Processing

A	B	D
Date	For Time Period (EDT)	Processing rate per hour
4/13/2007	14:00:00-15:00:00	12785
4/13/2007	15:00:00-16:00:00	20787
4/13/2007	16:00:00-17:00:00	25396
4/13/2007	17:00:00-18:00:00	31058
4/13/2007	18:00:00-19:00:00	35664
4/13/2007	19:00:00-20:00:00	30372
4/13/2007	20:00:00-21:00:00	71840
4/13/2007	21:00:00-22:00:00	21689
4/13/2007	22:00:00-23:00:00	43173
4/13/2007	23:00:00-00:00:00	59965
4/14/2007	00:00:00-01:00:00	36778
4/14/2007	01:00:00-02:00:00	43669
4/14/2007	02:00:00-03:00:00	33718
4/14/2007	03:00:00-04:00:00	32616
4/14/2007	04:00:00-05:00:00	39570
4/14/2007	05:00:00-06:00:00	37695
4/14/2007	06:00:00-07:00:00	36473
4/14/2007	07:00:00-08:00:00	57578
4/14/2007	08:00:00-09:00:00	52439
4/14/2007	09:00:00-10:00:00	44066
4/14/2007	10:00:00-11:00:00	43291
4/14/2007	11:00:00-12:00:00	38146
4/14/2007	12:00:00-13:00:00	35637
4/14/2007	13:00:00-14:00:00	33503
4/14/2007	14:00:00-15:00:00	39387

Measured for performance: Amount of initial obligations

The amount of initial obligations is the total dollar figure of transactions that were processed by FCM and assigned a Transaction Indicator (TI) of I. The reported cumulative and hourly dollar values are reported under columns E and F, respectively.

Table 1.7 is an extract of the table shown in Enclosure B. The cumulative amounts shown in Column E consolidate five Fiscal Station Numbers amounts for that hour. The end total is the cumulative for the entire testing period.

Column F shows the consolidated amount by FSN totals during the specified hour of testing. Each value is a *STAND ALONE* amount. Column A and B show the date and timeframe of the data collection.

Table1.7. Initial Obligation Value by FSN (Cumulative and per Hour)

A	B	E	F
		$ value - initial	$ value - initial
Date	For Time Period (EDT)	obligations by FSN/cum	obligations by FSN/hr
4/13/2007	14:00:00-15:00:00	$1,675,457.91	$1,675,457.91
4/13/2007	15:00:00-16:00:00	$4,095,192.99	$4,095,192.99
4/13/2007	16:00:00-17:00:00	$8,935,017.34	$4,839,824.35
4/13/2007	17:00:00-18:00:00	$11,286,344.40	$2,351,327.06
4/13/2007	18:00:00-19:00:00	$14,045,352.56	$2,759,008.16
4/13/2007	19:00:00-20:00:00	$17,363,196.65	$3,317,844.09
4/13/2007	20:00:00-21:00:00	$21,399,197.74	$4,036,001.09
4/13/2007	21:00:00-22:00:00	$22,544,098.50	$1,144,900.76
4/13/2007	22:00:00-23:00:00	$25,589,545.62	$3,045,447.12
4/13/2007	23:00:00-00:00:00	$29,019,915.18	$3,430,369.56
4/14/2007	00:00:00-01:00:00	$33,332,980.44	$4,313,065.26
4/14/2007	01:00:00-02:00:00	$36,692,173.25	$3,359,192.81
4/14/2007	02:00:00-03:00:00	$41,357,171.37	$4,664,998.12
4/14/2007	03:00:00-04:00:00	$49,063,701.61	$7,706,530.24
4/14/2007	04:00:00-05:00:00	$54,856,741.57	$5,793,039.96
4/14/2007	05:00:00-06:00:00	$58,352,830.12	$3,496,088.55
4/14/2007	06:00:00-07:00:00	$61,089,105.58	$2,736,275.46
4/14/2007	07:00:00-08:00:00	$68,093,431.17	$7,004,325.59
4/14/2007	08:00:00-09:00:00	$74,080,505.16	$5,987,073.99
4/14/2007	09:00:00-10:00:00	$77,396,285.45	$3,315,780.29
4/14/2007	10:00:00-11:00:00	$82,161,213.34	$4,764,927.89
4/14/2007	11:00:00-12:00:00	$83,367,584.09	$1,206,370.75
4/14/2007	12:00:00-13:00:00	$84,244,898.20	$877,314.11
4/14/2007	13:00:00-14:00:00	$86,102,702.91	$1,857,804.71
4/14/2007	14:00:00-15:00:00	$86,772,278.79	$669,575.88

Measured for performance: Amount of de-obligations by FSN (cumulative and per hour)

The amount of de-obligations is the dollar figure of transactions that were processed by FCM and met one or both of the following conditions:

- DIC of AE_ with cancellation status code and Transaction Indicator equal O
- DIC of A6_ with Transaction Indicator equal O

Table 1.8 is an extract of the table in Enclosure B. The reported dollar value is under columns G and H. Column A and B shows the date and timeframe of the data collection.

The amount shown in Column G is cumulative and consolidates the five Fiscal Station Numbers amounts for that hour. The end total is the cumulative for the entire testing period. The amount in Column H reflects the consolidated amount by FSN that match the tracking criteria during the specified hour. Each figure is a *STAND ALONE* count.

Table 1.8 Initial De-obligation Dollar Values by FSN (Cumulative and per Hour)

A	B	G	H
		$ value de-obligations	$ value de-obligations
Date	For Time Period (EDT)	by FSN/cumulative	by FSN/hr
4/13/2007	14:00:00-15:00:00	-$53,033.05	-$53,033.05
4/13/2007	15:00:00-16:00:00	-$138,477.63	-$138,477.63
4/13/2007	16:00:00-17:00:00	-$181,438.17	-$42,960.54
4/13/2007	17:00:00-18:00:00	-$321,699.77	-$140,261.60
4/13/2007	18:00:00-19:00:00	-$405,326.84	-$83,627.07
4/13/2007	19:00:00-20:00:00	-$417,252.38	-$11,925.54
4/13/2007	20:00:00-21:00:00	-$519,296.32	-$102,043.94
4/13/2007	21:00:00-22:00:00	-$797,977.77	-$278,681.45
4/13/2007	22:00:00-23:00:00	-$1,737,326.36	-$939,348.59
4/13/2007	23:00:00-00:00:00	-$1,857,200.08	-$119,873.72
4/14/2007	00:00:00-01:00:00	-$2,155,111.77	-$297,911.69
4/14/2007	01:00:00-02:00:00	-$2,242,825.33	-$87,713.56
4/14/2007	02:00:00-03:00:00	-$2,260,166.06	-$17,340.73
4/14/2007	03:00:00-04:00:00	-$2,279,165.06	-$18,999.00
4/14/2007	04:00:00-05:00:00	-$2,553,317.77	-$274,152.71
4/14/2007	05:00:00-06:00:00	-$2,615,256.15	-$61,938.38
4/14/2007	06:00:00-07:00:00	-$3,527,913.44	-$912,657.29
4/14/2007	07:00:00-08:00:00	-$3,561,367.44	-$33,454.00
4/14/2007	08:00:00-09:00:00	-$4,013,828.72	-$452,461.28
4/14/2007	09:00:00-10:00:00	-$4,219,366.91	-$205,538.19
4/14/2007	10:00:00-11:00:00	-$4,258,618.89	-$39,251.98
4/14/2007	11:00:00-12:00:00	-$4,297,759.43	-$39,140.54
4/14/2007	12:00:00-13:00:00	-$4,317,396.65	-$19,637.22
4/14/2007	13:00:00-14:00:00	-$4,408,760.85	-$91,364.20
4/14/2007	14:00:00-15:00:00	-$4,470,708.41	$669,575.88

Measured for performance: Count of FCM application crashes or deadlocks

Table 1.9 is an extract of the table in Enclosure B. There were no crashes reported during the testing period. However, it was reported that the application had 16 deadlocks. Application crashes are defined as total system shut down requiring a restart of the application. Application deadlocks are defined as processing when either financial or logistics processes using multiple files need the same database record. Only one process can control a database record at a given time. If a second process tries to access that same database record while it is being used by the first process, it is denied access. Access is not granted until that record is again available. When a process is denied access to a database record and does not complete the process, it is called a deadlock.

Columns A and B show the date and timeframe of the data collection. Column I is a cumulative total during the testing period. Column J is the number of crashes or deadlocks per specific hour.

Table 1.9 FCM Application Crashes or Deadlocks

A	B	I	J
Date	For Time Period (EDT)	Cum Count of FC app crashes or deadlocks	Hrly Count of FC app crashes or deadlocks
4/13/2007	14:00:00-15:00:00	3	3
4/13/2007	15:00:00-16:00:00	0	0
4/13/2007	16:00:00-17:00:00	2	2
4/13/2007	17:00:00-18:00:00	3	1
4/13/2007	18:00:00-19:00:00	3	0
4/13/2007	19:00:00-20:00:00	4	1
4/13/2007	20:00:00-21:00:00	4	0
4/13/2007	21:00:00-22:00:00	4	0
4/13/2007	22:00:00-23:00:00	6	2
4/13/2007	23:00:00-00:00:00	7	1
4/14/2007	00:00:00-01:00:00	7	0
4/14/2007	01:00:00-02:00:00	8	1
4/14/2007	02:00:00-03:00:00	8	0
4/14/2007	03:00:00-04:00:00	9	1
4/14/2007	04:00:00-05:00:00	9	0
4/14/2007	05:00:00-06:00:00	9	0
4/14/2007	06:00:00-07:00:00	9	0
4/14/2007	07:00:00-08:00:00	9	0
4/14/2007	08:00:00-09:00:00	9	0
4/14/2007	09:00:00-10:00:00	9	0
4/14/2007	10:00:00-11:00:00	12	3
4/14/2007	11:00:00-12:00:00	12	0
4/14/2007	12:00:00-13:00:00	12	0

A	B	I	J
Date	For Time Period (EDT)	Cum Count of FC app crashes or deadlocks	Hrly Count of FC app crashes or deadlocks
4/14/2007	13:00:00-14:00:00	16	4
4/14/2007	14:00:00-15:00:00	16	0

Measured for performance: Success rate of Web user interactions

The average number of users and duration of the peak periods used during the test were 250 users for 22 hours and 400 users for peak period of 1 hour. The data captured for the 400 users for the peak period of 2 hour is in Enclosure C. Data captured for the 250 users for a 22-hour period is in Enclosure D. The remaining hours of testing no user interface was used. These hours were used to capture pure transaction processing data for analysis and additional optimization. Users interface through the Web portal had a success rate of 97.62% during 400 users and 99.94% during 250 users over the testing period.

The Web portal request test results are contained in Columns N, O and P of Enclosure B. The requests for the first and last hours were not recorded. This time was used to capture clean transaction processing for analysis of applied optimization. User Interface testing started during the second hour. The second hour equates to 400 users accessing the Web portal. The number of interactive requests defines the functional actions a user made while in the Web portal, (i.e., select action, queries, and view reports). For example, Line two indicates that during the third hour the 400 users made 96,997 requests for the Web page, queries, and reports. Of these 96,997 requests, there were 2,306 communication errors for a success rate of 97.62%. Line 3 to end of stress test indicates that during this period, 250 users made 2,965,449 requests for the Web page, queries, and reports. Of these 2,965,449 requests, there were 1,570 communication errors for a success rate of 99.94%. This is a notable improvement over the September 2006 test which indicated a 75.18% success rate for the 250 users.

In Line 2, the average response time for 400 users for Web page requests, queries and reports was .296 seconds (see Enclosure C).

In Line 3 through Line 24 of test, the average response time for 250 users for Web page requests, queries and reports was .131 seconds (see Enclosure D).

Columns A and B show date and time frame of the data collection. Table 1.10 is an extract of Columns A, B and K-P (Columns N, O and P are combined since the average rate for Web pages, queries and reports were the same) of the table in Enclosure B.

Table 1.10 Extract of Columns, A, B and K-P from Enclosure B

A	B	K	L	M	N / O / P

		Portal Successful	Portal Failed	Portal requests	Ave Resp time
Date	For Time Period (EDT)	requests/hr	requests/hr	% Success Rate	Pages
					Queries/Reports
4/13/2007	14:00:00-15:00:00				
4/13/2007	15:00:00-16:00:00	96997	2306	97.62%	0.296 seconds
4/13/2007	16:00:00-17:00:00				
4/13/2007	17:00:00-18:00:00				
4/13/2007	18:00:00-19:00:00				
4/13/2007	19:00:00-20:00:00				
4/13/2007	20:00:00-21:00:00				
4/13/2007	21:00:00-22:00:00				
4/13/2007	22:00:00-23:00:00				
4/13/2007	23:00:00-00:00:00				
4/14/2007	00:00:00-01:00:00				
4/14/2007	01:00:00-02:00:00				
4/14/2007	02:00:00-03:00:00				
4/14/2007	03:00:00-04:00:00				
4/14/2007	04:00:00-05:00:00				
4/14/2007	05:00:00-06:00:00				
4/14/2007	06:00:00-07:00:00				
4/14/2007	07:00:00-08:00:00				
4/14/2007	08:00:00-09:00:00				
4/14/2007	09:00:00-10:00:00				
4/14/2007	10:00:00-11:00:00				
4/14/2007	11:00:00-12:00:00				
4/14/2007	12:00:00-13:00:00				
4/14/2007	13:00:00-14:00:00	2,965,449	1,570	99.94%	0.131 seconds
4/14/2007	14:00:00-15:00:00				

Measured for performance: CPU utilization on the database servers

Table 1.11 is an extract of the table in Enclosure B. Columns A and B show the date and timeframe of the data collection. Column Q shows the utilization of database server that was active during the testing period. The data for Column Q was pulled from the Microsoft Window Performance Counter.

Table 1.11 FCM CPU Utilization on Database Servers per Hour

A	B	Q
Date	For Time Period (EDT)	Ave % CPU Utilization/hr
		TransactDB
4/13/2007	14:00:00-15:00:00	33.3247%
4/13/2007	15:00:00-16:00:00	59.8970%

A	B	Q
Date	For Time Period (EDT)	Ave % CPU Utilization/hr
		TransactDB
4/13/2007	16:00:00-17:00:00	63.6940%
4/13/2007	17:00:00-18:00:00	59.3998%
4/13/2007	18:00:00-19:00:00	64.1319%
4/13/2007	19:00:00-20:00:00	64.5971%
4/13/2007	20:00:00-21:00:00	57.3771%
4/13/2007	21:00:00-22:00:00	37.9273%
4/13/2007	22:00:00-23:00:00	52.3989%
4/13/2007	23:00:00-00:00:00	54.1533%
4/14/2007	00:00:00-01:00:00	54.3607%
4/14/2007	01:00:00-02:00:00	55.9688%
4/14/2007	02:00:00-03:00:00	52.9713%
4/14/2007	03:00:00-04:00:00	42.0847%
4/14/2007	04:00:00-05:00:00	41.0035%
4/14/2007	05:00:00-06:00:00	24.8447%
4/14/2007	06:00:00-07:00:00	27.8275%
4/14/2007	07:00:00-08:00:00	33.8032%
4/14/2007	08:00:00-09:00:00	37.9415%
4/14/2007	09:00:00-10:00:00	28.3004%
4/14/2007	10:00:00-11:00:00	27.6440%
4/14/2007	11:00:00-12:00:00	28.3382%
4/14/2007	12:00:00-13:00:00	31.5265%
4/14/2007	13:00:00-14:00:00	29.4515%
4/14/2007	14:00:00-15:00:00	34.1729%

Way Ahead

AT&T GSI recommends the following actions for the way ahead:

- AT&T GSI will focus on optimizing web service calls between ODS and FCM, and the processing of these web-calls within FCM.
- AT&T GSI will continue to optimize database performance in FCM.
- Continue with Army-wide conversions.

Enclosure A. Pre-conditioning Sequence of Events

The Sequence of Events (SOE) was developed to coordinate a course of actions required by each CDA leading up to the Funds Control new hardware Stress Test. The table below outlines the information contained within each column.

FINAL

Column Heading	Description
Reference Number (Ref:)	This is the item number listed in sequence within the document.
Activity:	The Activity/CDAs that will accomplish this action.
Task Name:	Place the name of the task. Under the main task enter as many sub-tasks as are necessary, in as much detail as possible. The sub-tasks should be numbered using a sub-reference number, for example 5a, 5b, etc. If the task has a start time or end time include that information in this cell.
Start-date:	The date you will start the task.
End-date:	The date the task is to be completed.
Date Complete:	The date action was completed.

*Line 18 Start-Date Apr 16, 07 End-Date Apr 17, 07 Changed: 13 Apr 07

Sequence of Events for MW, FCM, ODS, and STANFINS Stress Test					
Ref	**Activity**	**Task Name**	**Start-Date**	**End-Date**	**Date Completed**
1	AMC, TC, MW, FCM	Conduct a teleconference to outline a plan to conduct a Stress Test.	Feb 16, 07	Apr 16, 07	Apr 16, 07
2	AMC, TC, MW, FCM	Create input to draft SOE. Provide data to ATT NLT 1200 hours on due date.	Feb 16, 07	Apr 16, 07	Apr 16, 07
3	AMC, TC, MW, FCM	Create input to draft test plan. Provide data to ATT NLT 1200 hours on due date.	Feb 20, 07	Apr 2, 07	Apr 2, 2007
4	TC	Incorporate input for SOE and test plan in one document. Provide updated document to all concerned NLT 1200 hours on due date.	Apr 2, 07	Apr 2, 07	Apr 2, 2007
5	AMC, TC, MW, FCM	Conduct a teleconference to review test plan and SOE.	Mar 30, 07	Apr 16, 07	Apr 16, 07
5a	MW	Prepare 8M SARSS transactions for input to FCM	Apr 6, 07	Apr 9, 07	Apr 11, 2007
6	MW	Update DODAACs and dates as necessary	Mar 30, 07	Apr 10, 07	Apr 10, 2007
6a	FCM	Capture Web (ODS to FC)	Mar 1, 07	Apr 10, 07	Apr 11, 2007
6b	FCM	Prepare production data Pull tables for input to test environment	Apr 3, 07	Apr 10, 07	Apr 11, 2007
7	FCM	Load converted database	Apr 9, 07	Apr 10, 07	Apr 11, 2007

Sequence of Events for MW, FCM, ODS, and STANFINS Stress Test					
Ref	**Activity**	**Task Name**	**Start-Date**	**End-Date**	**Date Completed**
7a	FCM	Condition FCM database (Prepare DoJoCon, and other tables as needed)	Apr 10, 07	Apr 10, 07	Apr 11, 2007
7b	FCM	Back up converted, conditioned database	Mar 20, 07	Apr 10, 07	Apr 11, 2007
7c	FCM	Prepare scripts and queries (concurrent with Step 7 above)	Mar 20, 07	Apr 10, 07	Apr 11, 2007
8	FCM	Create queries for measuring results (per measurements defined in test plan)	3 weeks before stress test Apr 2, 07	2 weeks before stress test Apr 13, 07	Apr 13, 2007
8a	FCM	Update user interface test scripts	Mar 20, 07	Apr 5, 07	Apr 11, 2007
9	FCM	Test database	Apr 9, 07	Apr 10, 07	Apr 11, 2007
10	MW/FCM	Send subset of prepared transactions to FCM test environment	Mar 1, 07	Apr 10, 07	Apr 10, 2007
10a	FCM	Verify transactions processed as expected	Apr 10, 07	Apr 15, 07	Apr 11, 2007
10b	FCM	If transactions did not process as expected, make conditioning corrections, and retry	Feb 16, 07	Apr 10, 07	Apr 11, 2007
10c	FCM	Test user interface test scripts	2 weeks before stress test Mar 26, 07	1 weeks before stress test Apr 06, 07	Apr 11, 2007
10d	MW/FCM	Test script to access and run reports, matrix,	Apr 10, 07	Apr 12, 07	Apr 12, 2007
10e	FCM	Preparation before test	Apr 9, 07	Apr 12, 07	Apr 12, 2007
11	FCM	Inform Belvoir of expected increased traffic on NIPRNet connection from Vienna	Apr 9, 07	Apr 9, 07	Apr 09, 2007
11a	FCM	Send Converted database to LOGSA (this will be via FedEx)	Apr 5, 07	Apr 9, 07	Already on site.
11b	LOGSA	Ensure personnel available to pick up FedEx package at mail room	Apr 5, 07	Apr 5, 07	Already on site.
11c	FCM	Database preparation for stress test	Apr 9, 07	Apr 12, 07	April 12, 2007
12	FCM	Optimization of FCM	NA	NA	NA
13	FCM	Load stress test databases from DVD sent to LOGSA, and attach them	Apr 11, 07	Apr 13, 07	Data on site
14	FCM	Set email notifications to be sent to test account	Apr 11, 07	Apr 15, 07	Apr 14, 2007

Sequence of Events for MW, FCM, ODS, and STANFINS Stress Test					
Ref	**Activity**	**Task Name**	**Start-Date**	**End-Date**	**Date Completed**
15	MW/FCM	START 24-hr. STRESS TEST CYCLE. NLT 12 PM on April 13, 2007	Apr 13, 07	Apr 14, 07	1500, Apr 14, 2007
16	MW/FCM	Run initial set of transactions through the systems. Then process remainder of transactions.	Apr 13, 07	Apr 13, 07	Apr 13, 2007
16a	MW/FCM	Collect metrics (during 24-hour cycle, Stop stress test NLT 12 PM (Apr 14, 07), plus allow 2 hours after cycle)	Apr 13, 07	Apr 16, 07	Apr 16, 07
16b	TC	AAR approval process	Apr 17, 07	Apr 20, 07	Apr 20, 07
17		Prepare Stress Test After Action Report	Apr 15, 07	Apr 17, 07	Apr 17, 07
*18		Internal QMS Inspection of AAR	Apr 16, 07	Apr 17, 07	Apr 17, 07
18a		Corrections to AAR and sent to QA	Apr 19, 07	Apr 24, 07	Apr 24, 07
19		QA inspection and approval process	Apr 19, 07	Apr 19, 07	Apr 19, 07
19a		CM process and release to customer	Apr 24, 07	Apr 24, 07	Apr 24, 07

Enclosure B. Transaction Volume Hourly Matrix.

Start time: 04/13/2007 14:00 EDT
Stop time: 04/14/2007 15:00 EDT

A	B	C	D	E	F	G	H
Date	For Time Period (EDT)	Processing rate Cumulative	Processing rate per hour	$ value - initial obligations by FSN/cum	$ value - initial obligations by FSN/hr	$ value de-obligations by FSN/cumulative	$ value de-obligations by FSN/hr
4/13/2007	14:00:00-15:00:00	12785	12785	$1,675,457.91	$1,675,457.91	-$53,033.05	-$53,033.
4/13/2007	15:00:00-16:00:00	20787	20787	$4,095,192.99	$4,095,192.99	-$138,477.63	-$138,477.
4/13/2007	16:00:00-17:00:00	46183	25396	$8,935,017.34	$4,839,824.35	-$181,438.17	-$42,960.
4/13/2007	17:00:00-18:00:00	77241	31058	$11,286,344.40	$2,351,327.06	-$321,699.77	-$140,261.
4/13/2007	18:00:00-19:00:00	112905	35664	$14,045,352.56	$2,759,008.16	-$405,326.84	-$83,627.
4/13/2007	19:00:00-20:00:00	143277	30372	$17,363,196.65	$3,317,844.09	-$417,252.38	-$11,925.
4/13/2007	20:00:00-21:00:00	215117	71840	$21,399,197.74	$4,036,001.09	-$519,296.32	-$102,043.
4/13/2007	21:00:00-22:00:00	236806	21689	$22,544,098.50	$1,144,900.76	-$797,977.77	-$278,681.
4/13/2007	22:00:00-23:00:00	279979	43173	$25,589,545.62	$3,045,447.12	-$1,737,326.36	-$939,348.
4/13/2007	23:00:00-00:00:00	339944	59965	$29,019,915.18	$3,430,369.56	-$1,857,200.08	-$119,873.
4/14/2007	00:00:00-01:00:00	376722	36778	$33,332,980.44	$4,313,065.26	-$2,155,111.77	-$297,911.
4/14/2007	01:00:00-02:00:00	420391	43669	$36,692,173.25	$3,359,192.81	-$2,242,825.33	-$87,713.
4/14/2007	02:00:00-03:00:00	454109	33718	$41,357,171.37	$4,664,998.12	-$2,260,166.06	-$17,340.
4/14/2007	03:00:00-04:00:00	486725	32616	$49,063,701.61	$7,706,530.24	-$2,279,165.06	-$18,999.
4/14/2007	04:00:00-05:00:00	526295	39570	$54,856,741.57	$5,793,039.96	-$2,553,317.77	-$274,152.
4/14/2007	05:00:00-06:00:00	563990	37695	$58,352,830.12	$3,496,088.55	-$2,615,256.15	-$61,938.
4/14/2007	06:00:00-07:00:00	600463	36473	$61,089,105.58	$2,736,275.46	-$3,527,913.44	-$912,657.
4/14/2007	07:00:00-08:00:00	658041	57578	$68,093,431.17	$7,004,325.59	-$3,561,367.44	-$33,454.
4/14/2007	08:00:00-09:00:00	710480	52439	$74,080,505.16	$5,987,073.99	-$4,013,828.72	-$452,461.
4/14/2007	09:00:00-10:00:00	754546	44066	$77,396,285.45	$3,315,780.29	-$4,219,366.91	-$205,538.
4/14/2007	10:00:00-11:00:00	797837	43291	$82,161,213.34	$4,764,927.89	-$4,258,618.89	-$39,251.
4/14/2007	11:00:00-12:00:00	835983	38146	$83,367,584.09	$1,206,370.75	-$4,297,759.43	-$39,140.
4/14/2007	12:00:00-13:00:00	871620	35637	$84,244,898.20	$877,314.11	-$4,317,396.65	-$19,637.
4/14/2007	13:00:00-14:00:00	905123	33503	$86,102,702.91	$1,857,804.71	-$4,408,760.85	-$91,364.
4/14/2007	14:00:00-15:00:00	944510	39387	$86,772,278.79	$669,575.88	-$4,470,708.41	$669,575.
** Note: Metrics 5, 6, 7 and 8 are not broken out by pages, queries or reports. This metric was taken as a one hour metric in the first and second hours and as a 22 hour metric.		Every MW file completed processing into FCM per hour, transaction count, cumulative STAND ALONE	Total file transactions count finished within that hour (Example: file started in 1st hour could finish within 3rd hour) Multiple files processing simultaneously STAND ALONE	Capture the dollar value of initial oblications TI = I (When transaction processed assigns TI = I) consolidated of the 5 FSNs (cumulative), end total will be cumulative for entire time period STAND ALONE	Capture the dollar value of initial obligations consolidated of the 5 FSNs (per hour) STAND ALONE	Capture the dollar value of de-obligations consolidated of the 5 FSNs (cumulative), end total will be cumulative for entire time period 2 conditions: cancel or denial DIC AE_ w/cancellation status code / A6_ TI = O STAND ALONE	Capture the dollar value of de-obligations consolidated of the 5 FSNs (per hour) STAND ALONE

Transaction Volume Hourly Matrix (continued)

I	J	K	L	M	N
Cum Count of FC app crashes or deadlocks	Hrly Count of FC app crashes or deadlocks	Web Portal Successful requests/hr	Web Portal Failed requests/hr	Web Portal requests % Success Rate	Ave Response time ** Web User Interface-Pages
3	3				
0	0	96997	2306	97.62%	0.296 seconds
2	2				
3	1				
3	0				
4	1				
4	0				
4	0				
6	2				
7	1				
7	0				
8	1				
8	0				
9	1				
9	0				
9	0				
9	0				
9	0				
9	0				
9	0				
12	3				
12	0				
12	0				
16	4	2,965,449	1,570	99.94%	0.131 seconds
16	0				
MW batches that did not complete cumulative. Deadlock - with mult files processing where Log and Fin application using same record Crashes - bug in code or bad data	MW batches that did not complete per hour. Deadlock - with mult files processing where Log and Fin application using same record Crashes - bug in code or bad data	Count number of successful user requests (cumulative and per hour) to FC Web portal	Count number of failed user requests (cumulative and per hour) to FC Web portal	Success Rate in percents	Average response time for web user interface (cumulative, separate by pages)

Transaction Volume Hourly Matrix (continued)

O	P	Q
Ave Response time **	Ave Response time **	Ave % CPU Utillization/hr
Web User Interface-queries	Web User Interface - reports	TransactDB
		33.3247%
0.296 seconds	0.296 seconds	59.8970%
		63.6940%
		59.3998%
		64.1319%
		64.5971%
		57.3771%
		37.9273%
		52.3989%
		54.1533%
		54.3607%
		55.9688%
		52.9713%
		42.0847%
		41.0035%
		24.8447%
		27.8275%
		33.8032%
		37.9415%
		28.3004%
		27.6440%
		28.3382%
		31.5265%
0.131 seconds	0.131 seconds	29.4515%
		34.1729%
Average response time for web user interface (cumulative, separate by queries)	Average response time for web user interface (cumulative, separate by reports)	Microsoft Window performance - counter. Data pulled from Microsoft window log. DB2 - active

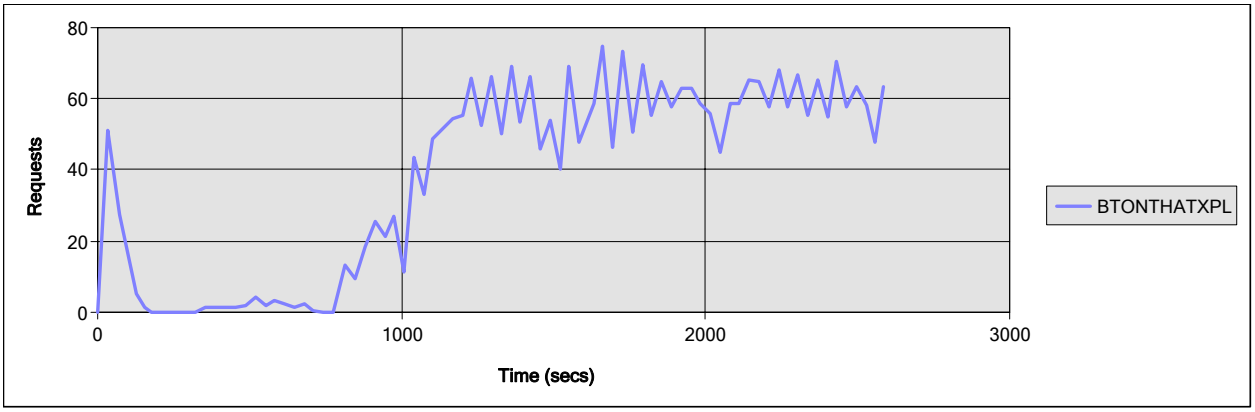
Enclosure C: Application Center Test for 400 Users at 2 Hour

Overview: Summary

Overview: Summary

Test Name: SSF FC: FCM_Final_Script
Test Run Name: report-FCM_Final_Script-Apr 13, 2007 16-00-41
Test Started: 4/13/2007 3:17:36 PM
Test Duration: 00:00:43:04
Test Iterations: 0
Test Notes: -

Test Run Graph



Properties

Test type:	Dynamic
Simultaneous browser connections:	400
Warm up time (secs):	0
Test duration:	00:00:43:04
Test iterations:	0
Detailed test results generated:	Yes

Summary

Total number of requests:	99,303
Total number of connections:	100,456
Average requests per second:	38.43
Average time to first byte (msecs):	296.75
Average time to last byte (msecs):	296.89
Average time to last byte per iteration (msecs):	N/A
Number of unique requests made in test:	14
Number of unique response codes:	2

Errors Counts

HTTP:	0
DNS:	0
Socket:	2,306

Additional Network Statistics

Average bandwidth (bytes/sec):	186,075.62
Number of bytes sent (bytes):	196,912,193
Number of bytes received (bytes):	283,907,204
Average rate of sent bytes (bytes/sec):	76,204.41
Average rate of received bytes (bytes/sec):	109,871.21
Number of connection errors:	0
Number of send errors:	1,153
Number of receive errors:	1,153
Number of timeout errors:	0

Response Codes

Response Code: 302 - The requested resource resides temporarily under a different URI (Uniform Resource Identifier).

Count:	87,679
Percent (%):	88.29

Response Code: 200 - The request completed successfully.

Count:	11,624
Percent (%):	11.71

Application Center Test

Requests: Summary

Test Name: SSF FC: FCM_Final_Script
Test Run Name: report-FCM_Final_Script-Apr 13, 2007 16-00-41
Test Started: 4/13/2007 3:17:36 PM
Test Duration: 00:00:43:04
Test Iterations: 0
Test Notes: -
View: Averages Percentiles
Sort By: General: Address Number of Requests
Content Length: Average 50th Percentile
Time to First Byte: Average 50th Percentile
Time to Last Byte: Average 50th Percentile

Requests	Content Length (bytes)		Time To First Byte (msecs)		Time To Last Byte (msecs)	
Total	**Avg**	**Std Dev**	**Avg**	**Std Dev**	**Avg**	**Std Dev**
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/						
18,559	215.00	0.00	171.56	215.04	171.66	215.07
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/DOJOCON/default.aspx						
399	238.00	0.00	157.19	161.06	157.34	161.02
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/DOJOCON/default.aspx						
2,191	238.00	0.00	2,132.27	6,541.99	2,132.83	6,541.84
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/fadr/FADR.aspx						
1,960	232.00	0.00	215.12	215.48	215.31	215.46
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/fadr/FADR.aspx						
5,939	232.00	0.00	447.92	901.15	448.03	901.12
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DocNoHistoryReport.aspx						

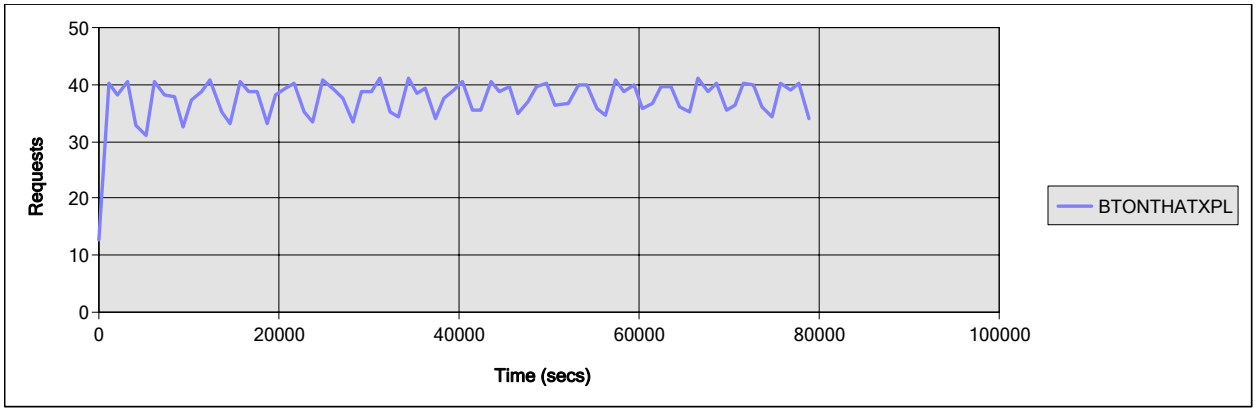
9,207	226.00	0.00	171.03	185.98	171.17	186.04
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DocNoHistoryReport.aspx						
18,072	226.00	0.00	420.85	736.36	420.98	736.34
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DocNoHistoryReport_rpt.aspx						
8,897	230.00	0.00	180.07	219.85	180.17	219.85
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/NonAKO_Login.aspx						
11,624	1,117.00	0.00	220.77	244.31	220.90	244.34
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/TransactionReportMenu.aspx						
9,248	229.00	0.00	174.71	194.28	174.82	194.28
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/default.aspx						
11,641	281.00	0.00	189.90	237.73	190.00	237.73
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/txadjsearch.aspx						
787	219.00	0.00	1,011.94	1,496.88	1,012.30	1,496.80
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/txadjupdate.aspx						
394	415.00	0.00	382.85	443.25	383.24	443.04
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/txadjupdate.aspx						
385	287.00	0.00	898.59	1,235.48	899.77	1,234.98

Enclosure D: Application Center Test for 250 Users at 19 Hour

Overview: Summary

Test Name: SSF FC: FCM_Final_Script
Test Run Name: report-FCM_Final_Script-Apr 14, 2007 14-01-39
Test Started: 4/13/2007 4:01:34 PM
Test Duration: 00:22:00:00
Test Iterations: 4,001
Test Notes: -

Test Run Graph



Properties

Test type:	Dynamic
Simultaneous browser connections:	250
Warm up time (secs):	0
Test duration:	00:22:00:00
Test iterations:	4,001
Detailed test results generated:	Yes

Summary

Total number of requests:	2,965,449
Total number of connections:	2,966,234
Average requests per second:	37.44
Average time to first byte (msecs):	131.29
Average time to last byte (msecs):	131.45
Average time to last byte per iteration (msecs):	97,425.09
Number of unique requests made in test:	23
Number of unique response codes:	2

Errors Counts

HTTP:	0
DNS:	0
Socket:	1,570

Additional Network Statistics

Average bandwidth (bytes/sec):	177,955.75
Number of bytes sent (bytes):	5,625,887,444
Number of bytes received (bytes):	8,468,208,214
Average rate of sent bytes (bytes/sec):	71,033.93
Average rate of received bytes (bytes/sec):	106,921.82
Number of connection errors:	0
Number of send errors:	785
Number of receive errors:	785
Number of timeout errors:	0

Response Codes

Response Code: 302 - The requested resource resides temporarily under a different URI (Uniform Resource Identifier).

Count:	2,624,373
Percent (%):	88.50

Response Code: 200 - The request completed successfully.

Count:	341,076
Percent (%):	11.50

Requests: Summary

Test Name: SSF FC: FCM_Final_Script
Test Run Name: report-FCM_Final_Script-Apr 14, 2007 14-01-39
Test Started: 4/13/2007 4:01:34 PM
Test Duration: 00:22:00:00
Test Iterations: 4,001
Test Notes: -
View: Averages Percentiles
Sort By: General: Address Number of Requests
Content Length: Average 50th Percentile
Time to First Byte: Average 50th Percentile
Time to Last Byte: Average 50th Percentile

Requests	Content Length (bytes)		Time To First Byte (msecs)		Time To Last Byte (msecs)	
Total	**Avg**	**Std Dev**	**Avg**	**Std Dev**	**Avg**	**Std Dev**
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/						
631,164	215.00	0.00	86.52	74.22	86.65	74.24
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/DOJOCON/default.aspx						
4,249	238.00	0.00	166.14	669.62	166.61	669.60
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/DOJOCON/default.aspx						
29,266	238.00	0.00	2,321.69	4,965.25	2,322.29	4,965.38
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/fadr/FADR.aspx						
21,243	232.00	0.00	143.64	173.78	144.05	173.81
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DataUpdate/fadr/FADR.aspx						
63,720	232.00	0.00	403.47	707.36	403.88	707.41
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DocNoHistoryReport.aspx						
254,890	226.00	0.00	81.89	62.29	82.01	62.29
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DocNoHistoryReport.aspx						
509,731	226.00	0.00	132.88	221.08	132.99	221.11
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/DocNoHistoryReport_rpt.aspx						
254,850	230.00	0.00	82.93	61.95	83.05	61.97
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/NonAKO_Login.aspx						
341,076	1,117.00	0.00	101.68	97.28	101.87	97.57
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/TransactionReportMenu.aspx						
315,519	229.00	0.00	85.96	73.81	86.11	73.84
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/TurnInCreditTrackingReport.aspx						

20,477	234.00	0.00	74.69	31.49	74.84	31.55
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/TurnInCreditTrackingReport.aspx						
20,444	234.00	0.00	105.79	91.34	105.97	91.37
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/TurnInCreditTrackingReport_rpt.aspx						
20,442	238.00	0.00	75.71	32.86	75.84	32.88
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/UnbilledAndInTransitReport1.aspx						
20,000	235.00	0.00	133.87	140.79	134.26	140.80
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/UnbilledAndInTransitReport1.aspx						
20,003	235.00	0.00	358.25	589.42	358.66	589.40
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/UnbilledAndInTransitReport2.aspx						
20,103	235.00	0.00	107.50	103.90	107.79	103.95
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/UnbilledAndInTransitReport2.aspx						
20,102	235.00	0.00	244.09	405.95	244.35	405.97
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/UnbilledAndInTransitReport2_rpt.aspx						
20,101	239.00	0.00	106.97	91.74	107.29	91.82
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/UnbilledAndInTransitReport5_rpt.aspx						
20,006	239.00	0.00	143.88	163.91	144.19	163.91
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/default.aspx						
341,069	281.00	0.00	94.67	92.95	94.81	92.98
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/txadjsearch.aspx						
8,497	219.00	0.00	422.06	679.91	422.44	679.94
GET, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/txadjupdate.aspx						
4,249	415.00	0.00	168.18	190.53	168.52	190.49
POST, SSL fc.ssf.army.mil/FundsControlPortal_NonAKO/txadjupdate.aspx						
4,248	287.00	0.00	468.53	841.04	468.97	841.02

Enclosure E: TVST Points of Contact List

Transaction Volume Stress Test - Hardware			
LAST NAME	**FIRST NAME**	**TELEPHONE NUMBER**	**E-MAIL ADDRESS**
Brazeal	Jimmie	(804) 255-2202	jimmiebrazeal@att.com
Chervenka	Mike	(703) 506-4802	michaelchervenka@att.com
Collins	Bruce	(703) 506-5998	bcollins@att.com
Crain	Leonard	(703) 506-5607	leonard.crain@att.com
Curd	John	(703) 506-5998	john.curd@att.com
Deterding,	Eric	(703) 506-5508	eric.deterding@att.com
Franks	John (S)	(703) 506-5459	john.franks@ingenuityinc.net
Hone	Doug	(703) 806-9160	douglas.hone@us.army.mil
Madden	Bobby	(804) 255-2133	bobby.madden@att.com
McDermott	Kevin	(703) 506-5965	kevinmcdermott@att.com
LaFalce	Dawn	(703) 806-9177	dawn.lafalce@us.army.mil
Parker	Julie	(256) 955-0556	julie.parker@us.army.mil
Patel	Atal	(703) 506-5624	atal.patel@att.com
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Reed	Jeffrey	(256) 955-9706	jeffrey.reed@us.army.mil
Schandler	David	(703)506-5229	david.schandler@att.com
Seeley	Aaron (S)	(703) 506-5168	aaron.seeley@att.com
Solley	William (Bill)	(703) 506-5995	william.c.colley@att.com
Spee	Bob	(256) 955-9980	robert.spee@us.army.mil
Turner	Joe	(703) 506-5282	joe.turner.1@att.com
Webb	Dennis	(703) 806-9159	dennis.webb@att.com
Wiley	Raymond (S)	(703) 506-4949	raymond.wiley@att.com